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EXAMINER	
TUROCY, DAVID P	
ART UNIT	PAPER NUMBER
1792	

NOTIFICATION DATE	DELIVERY MODE
02/09/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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DETAILED ACTION

Response to Arguments

1. The applicant argues against the combination of references, stating that the examiner is incorrect in classifying a overlay coating as a diffusion coating. The applicant contends that an overlay coating and a diffusion coating are two different coatings that are physically, chemically, and microstructurally different and thus will not respond the same to the surface treatments and thus the combination of references are in error. The examiner notes that the overlay coating includes a diffusion layer and thus can reasonably be considered a diffusion coating, where the applicant's specification clearly discloses that an overlay coating has a diffusion zone (see applicant's specification paragraph 0005). While the specification clearly discloses that the material deposited as an "overlay coating" does not have a diffusion zone the same depth as a "diffusion coating", the specification fails to appreciate the metes and bounds of the diffusion zone depth for an overlay coating with respect to a diffusion coating. The applicant has provided not factual evidence to support the position of different properties and one of ordinary skill in the art would not expect treatments for a "diffusion coating" to be applicable to a "overlay coating". The examiner maintains the position that the fact that a overlay coating has a diffusion zone is sufficient evidence to support that position that one of ordinary skill in the art would reasonably predict successful results in the recrystallization of an overlay coating, which includes a diffusion zone, to enhance the resistance to thermal fatigue of that deposited layer because Nakamura

discloses that the recrystallization of a coating deposited by known methods has shown and predictable results.

The examiner notes that Nakamura discloses intermetallic NiAl coating and discloses depositing such a layer by known methods, including vapor deposition. Rigney, similarly, discloses an intermetallic NiAl coating deposited by vapor deposition. Therefore, since the two references discloses similar coatings deposited by similar coating methods, it remains the examiners position that one of ordinary skill in the art would expect the treatment of the intermetallic NiAl coating as discussed in the prior art rejection to lead to predictable results on a intermetallic NiAl coating as taught by Rigney. The applicant has not provided any factual evidence to support the position that the two coatings are of such different character that the recrystallization of the intermetallic NiAl coating of Nakamura would not lead to predictable results for the intermetallic NiAl coating as taught by Rigney.

Addditionally, Nakamura discloses depositing the coating by vapor deposition techniques or thermal spraying (a known PVD technique), and Rigney discloses PVD is a known technique for deposition of bond coatings and such PVD provides an overlay coating because it limits the diffusion zone. Therefore at the very least, Nakamura discloses PVD deposition and Rigney discloses PVD results in a overlay coating as claimed and thus one of oridnary skill in teh art, taking the references collectively would have been motivated to modify the Rigney reference with the the recrsytallization treatment process to reap the benefits as taught by Nakamura because Nakamura discloses such processes are applicable to PVD deposited intermetallic NiAl coatings.

In response to the applicant arguments against the combination of references stating that the NiAl overlay coatings do not need to be improved, this argument is unsupported by any factual evidence. The mere fact that the applicants cite a passage that says that overlay coatings have higher yield strengths does nothing to cure the deficiencies in the arguments, because such does not provide evidence to the lack of need for improvement

While the examiner maintains that the overlay coating has diffusion zone and can reasonably be interpreted to be a diffusion coating, the examiner notes that Nakamura reference discloses that the treatment method enhances the resistance to thermal fatigue of the surface of a coating layer obtained by known coating treatments, see page 5. Therefore, one of ordinary skill in the art would reasonably predict successful results in the recrystallization of an overlay coating, which includes a diffusion zone, to enhance the resistance to thermal fatigue of that deposited layer because Nakamura discloses that the recrystallization of a coating deposited by known methods has shown and predictable results. Nakamura discloses selecting a recrystallization temperature that results in fine recrystallized grain layer on the outermost surface of the diffusion coating layer. Additionally, the ASA as shown in application 09/524227 at page 9 discloses that the diffusion coating comprises a diffusion zone (30) and an additive layer (28), see figures 2-3). Since Nakamura discloses that the recrystallization temperature results in fine recrystallized grain layer on the outermost surface of the bond layer and the outmost layer of the bond layer for a diffusion coating and overlay coating are substantially similar, as suggested by ASA, one of ordinary skill in the art would have

reasonably expected to the recrystallization treatment as taught by Nakamura to results in fine recrystallized grain layer on the outermost surface of the bond layer.

Additionally, Nakamura explicitly discloses that forming fine crystal grains in the vicinity of the surface of the coating layer enhances the resistance to thermal fatigue of the coating layer and fine crystals are known to have high yield strength, see Nakamura page 6. Nakamura discloses that the portions subject to shot peening, i.e. the surface of the coated layer, serve as the nuclei of the new crystal grains when subject to the heat treatment, see page 7.

AAPA, Nakamura et al and Rigney et al each disclose a NiAl bond coating and Nakamura discloses the recrystallization treatment is a surface treatment, therefore one of ordinary skill in the art would have reasonably expected to provide successful results in applying the NiAl recrystallization treatment as taught by Nakamura to the NiAl bond coatings as taught by AAPA and Rigney.

Terminal Disclaimer

2. The terminal disclaimer filed on 5/28/08 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 7244467 has been reviewed and is accepted.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID TUROCY whose telephone number is (571)272-

2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Turocy/
Examiner, Art Unit 1792

/Timothy H Meeks/
Supervisory Patent Examiner, Art Unit 1792